

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A bone-marrow extraction and/or injection device ~~(1)~~ comprising:
 - a grip zone ~~(2)~~; and
 - a needle ~~(10)~~ presenting at least one side orifice ~~(15)~~;

~~the device being characterized in that~~ wherein said needle ~~(10)~~ is fastened onto a needle holder ~~(30)~~, and ~~in that~~ a protective sleeve ~~(20)~~ surrounds at least part of said needle ~~(10)~~, said protective sleeve being mounted to move relative to said needle ~~(10)~~ between a closed position of said at least one side orifice ~~(15)~~ and an open position of said at least one side orifice ~~(15)~~, and said needle holder ~~(30)~~ including reception means ~~(34)~~ that are suitable for co-operating with fastener means ~~(22)~~ of said protective sleeve ~~(20)~~ so as to hold said protective sleeve in the closed position or in the open position.
2. (currently amended): A device ~~(1)~~ according to claim 1, in which said protective sleeve ~~(20)~~ is mounted to turn about the needle ~~(10)~~.
3. (currently amended): A device ~~(1)~~ according to claim 1, in which said protective sleeve ~~(20)~~ includes at least one side opening ~~(25)~~ that is positioned substantially facing said at least one side orifice ~~(15)~~ of the needle ~~(10)~~ in the open position.

4. (currently amended): A device ~~(1)~~ according to claim 4, in which said protective sleeve ~~(20)~~ comprises a first portion constituting a sheath ~~(21)~~ surrounding said needle, and a second portion comprising said fastener means ~~(22)~~.

5. (currently amended): A device ~~(1)~~ according to claim 4, in which said fastener means ~~(22)~~ include at least one claw that is pivotally mounted, and that presents a manual actuation surface ~~(23)~~ and a projection ~~(24)~~.

6. (currently amended): A device ~~(1)~~ according to claim 4, in which said reception means ~~(34)~~ of said needle holder ~~(30)~~ comprise at least one groove that is suitable for receiving at least one projection ~~(24)~~ of said fastener means ~~(22)~~ of said protective sleeve ~~(20)~~.

7. (currently amended): A device ~~(1)~~ according to claim 1, in which said device includes a mixing chamber ~~(13)~~ that is connected to said needle, and to at least one inlet channel ~~(31)~~ and at least one outlet channel ~~(32)~~.

8. (currently amended): A device ~~(1)~~ according to claim 7, in which said mixing chamber is provided in the needle holder ~~(30)~~.

9. (currently amended): A device ~~(1)~~ according to claim 7, in which said grip zone ~~(2)~~ comprises a handle, said mixing chamber being provided in said handle.

10. (currently amended): A device according to claim 7, including an add-on element ~~(130)~~ between said grip zone ~~(2)~~ and said needle holder ~~(30)~~, said mixing chamber being provided in said add-on element ~~(130)~~.

11. (currently amended): A bone-marrow extraction system, characterized in that it includes a device ~~(1)~~ according to claim 1.

12. (currently amended): An extraction system according to claim 11, in which said system includes a mixing chamber ~~(13)~~ that is connected to said needle ~~(10)~~ of the device, and to at least one inlet channel ~~(31)~~ and at least one outlet channel ~~(32)~~.

13. (currently amended): An extraction system according to claim ~~11~~12, in which an inlet channel ~~(31)~~ is connected to a source ~~(40)~~ of anticoagulant.

14. (currently amended): An extraction system according to claim ~~11~~12, in which an outlet channel ~~(32)~~ is connected to a bone-marrow collection vessel ~~(50)~~.

15. (currently amended): An extraction system according to claim 11, in which said system includes suction means connected at least to said needle ~~(10)~~.

16. (currently amended): An extraction system according to claim 15, in which said suction means ~~(60)~~ comprise a vacuum pump.

17. (currently amended): An extraction system according to claim 15, in which said suction means ~~(60)~~ are controlled by a control means ~~(90), such as comprising~~ a pedal that is actuated by the user.

18. (currently amended): An extraction system according to claim ~~44~~ 12, in which said at least one inlet channel ~~(31)~~ projects into the mixing chamber ~~(13)~~ and towards said at least one outlet channel ~~(32)~~, so as to create a Venturi effect.

19. (currently amended): An extraction system according to claim 11, in which said system includes a timer device ~~(80)~~ for setting the duration of the bone-marrow suction stages.

20. (currently amended): A bone-marrow injection system, characterized in that it includes a device ~~(1)~~ according to claim 1.

21. (currently amended): An injection system according to claim 20, in which said device ~~(1)~~ is connected to a bone-marrow reservoir, said reservoir being connected to dispenser means.

22. (currently amended): An injection system according to claim 20, in which said dispenser means comprise a pump, ~~such as comprising~~ a syringe with an electrically-driven plunger, or a CO₂ pump.

23. (previously presented): An extraction and/or injection system according to claim 11, in which said system is packaged in sterile manner.

24. (new): A bone-marrow extraction and/or injection device according to claim 1, wherein the fastener means comprises a pair of claws disposed diametrically opposite to one another.

25. (new): A bone marrow extraction and/or injection device according to claim 24, wherein the fastener means prevents a radial force from being applied to the protective sheath.

26. (new): A bone-marrow extraction and/or injection device ~~(+)~~comprising:

- a grip zone; and
- a needle presenting at least one side orifice;

wherein said needle is fastened onto a needle holder, and a protective sleeve surrounds at least part of said needle, said protective sleeve being mounted to move relative to said needle between a closed position of said at least one side orifice and an open position of said at least one side orifice, and said needle holder including grooves which co-operate with a fastener of said protective sleeve so as to hold said protective sleeve in the closed position or in the open position.